DESN 275 Assignments Week 4

Reading 1: Shure Home Recording – lots of answers to microphone questions, plus how to set up and get the best quality recordings.

Reading 2: How to Prevent Distortion – what it is; what causes it: how to avoid it.

Reading 3: Microphone Types – Sound on Sound – a single page full of the most useful information – answers many questions below.

Assignment 1: Get your recording system up and running on your own computer. Avoid accidentally using the computer's built-in mic!

Assignment 2: Create a recording of you reading the *marked question along with the correct answer(s). Your voice in the recording should sound natural, full and warm, and include no noise, no pops, no first reflections, and minimal room reverberation. Edit it to seem consistent in loudness, and not to have unnecessarily long pauses. Submit an MP3

Assignment 3: Record a 2-minute interview with a teacher or fellow student. Ask about name, where they came from, how they got to EWU, what their job or major field of study is, why they chose that field, what their goals are, what their plans are.

This is to be a *polished production*. Write a script of the questions before you begin. Record the interview with the interviewee using the microphone close up, and your voice in the background. Then, re-record your questions with good close-mic technique and edit the questions back into the interview.

As in assignment 2, your voice and the interviewee's voice should sound natural, full and warm, and include no noise, no pops, no first reflections, and minimal room reverberation. Experiment with location of recording, the distance and angle of the mic, and the settings. Edit it to seem consistent in loudness, and not to have unnecessarily long pauses. If some noise does happen during the recording, record the question and answer again to get it perfect.

Questions: Signal Flow in a Recording System

What is the "signal flow"?

What happens when a signal (or recording) level is "too hot"?

How can you "see" if the level is too hot?

What causes distortion and how do you avoid it? (Reading 2, Avoiding Distortion – Media College)

When setting the gain or input level for recording, what is "headroom"?

What does each of these do?

A preamp

An analog-to-Digital converter

An audio Interface

What advantage does a mixer have over a standalone audio interface box?

* What do you have to do to get a laptop (or desktop) computer to record with an audio interface? The list of 13 steps below is not an exact list for every situation, but all these steps are probably done sooner or later.

1 Turn on the computer and audio interface
2 Open the software app
3 Check and set session parameters, bit depth, sample rate, audio file type
4 Determine the file name and destination where you will save the file
5 Create a new track and name it
6 Put the track into "record pause" by clicking the red button ("arm it")
7 Make certain the correct input is selected
8 Plug a mic into the interface and adjust the preamp gain
9 Make certain the level isn't set too high (could add clipping) or too low (could add noise)
10 Record the track
11 Unarm the track (Take it out of record mode)
12 Listen to the track. If you cannot hear it, change to the correct settings (output device?)
13 Adjust the monitor volume (usually found on the interface)

Questions: Microphones and Their Uses

What is a preamp?
What is leakage or bleed-over?

Why does the Shure Home Recording reading say “the deader the better”? What three things should you avoid?

Why is a pop filter often necessary?

When would you use the low-cut (also called high-pass) filter switch on a mic?

Know about the different types of microphones, including dynamic, large-diaphragm and small-diaphragm condenser, and ribbon. (Shure Home Recording reading)

Which are more rugged?

Which have better detail (extended frequency response)?

Which are warm sounding?

Which need power?

Know about typical microphone pickup patterns, including omnidirectional, cardioid, and figure-8. Which reject sound from the side? Which sounds best from the side? (Shure Home Recording reading)

Why would you want a mic with a flat frequency response? When would you want one with a non-linear frequency response?

What is a microphone proximity effect? Do all microphones have it?

When recording, why do you have to keep in mind the direct path of the sound, as well as early reflections, and reverberation?

Why might you try stereo miking on an instrument like a guitar?

What is a transient?

What is meant by the transient response of a particular microphone?
What is XY or coincident miking?

Why might a spaced-pair mic setup have phasing (in-phase/out-of-phase) issues?

What is a direct-box used for? What problems might it solve?

When recording voice, what are the four specific recommendations for mic placement, as listed in the Sure Home Recording pdf?

What is the 3 to 1 rule, and why does it work? (Shure reading)

Questions: Additional Questions from the Class and Reading

What is the difference between peak and RMS recording level meters?

How is a direct box used? What are the advantages?

How can you tell if a cable is balanced?

Why do you want to use balanced cables?

What is a boundary microphone? What are the advantages?

How do you decide how close a microphone should be to the talent?

What is a shock mount good for?

What are a three ways to reduce plosive pops?

What does normalization mean?